# Trade and Foreign Policy

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# Trade and Foreign Policy

**Master Thesis Economics and Business**

by


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Credit title image: Oil painting by Per Krohg (1952) exhibited in the United Nations Security Council, simply called "United Nations Security Council Mural". Krogh was inspired by murals found in Catholic churches. In the center a phoenix is depicted surrounded by images of war in the bottom and more tranquil depictions of every day life near the top. The artwork depicts a story that can be read both vertically and horizontally. Krogh wanted his mural to inspire peace and harmony.

**Abstract**

International relationship scholars have not properly addressed endogeneity issues in empirical research on the foreign policy consequences of international trade. This makes it difficult to formulate an answer to the question: does decreased trade cost cause foreign policy convergence? This research aims to contribute to the existing literature by incorporating an identification strategy used in the international economics literature, where the closing of the Suez Canal, as a result of the Six Day War, is used as a natural experiment. The closure created an exogenous shock in shipping distance which caused affected dyads to temporarily decrease trade flows, this variation is used to deal with the simultaneity that is present in the relationship between bilateral trade and foreign policy convergence. Foreign policy convergence is inferred from vote similarity between states in the United Nations General Assembly. Causality cannot be claimed in this research setup because the conditional independence assumptions does not hold. Contrary to earlier research, a positive correlation between shipping distance and foreign policy convergence is found.

# Contents

# 1

# Introduction

Does increased bilateral trade cause foreign policy convergence? This question has been a popular topic of research in the international sciences. Research has shown that trade follows flag[1] i.e., foreign policy affects bilateral trade. The question at hand, however, is one on causality running the other way around, from bilateral trade to foreign policy. This means that empirical research has to control for the problem of reversed causality in its identification strategy. Most empirical research has not addressed the inherit endogeneity of this relationship accordingly.

This research aims to contribute to the existing literature by addressing endogeneity concerns with a natural experiment; the closure of the Suez Canal as a result of the Six Day War between Israel and Egypt, Jordan, Syria and Iraq[2]. The canal was closed by Egypt on the first day of the war, June 5th 1967, to stop the Israeli army from utilizing the canal[3]. The canal stayed close for exactly eight years and was opened after peace negotiations between Egypt and Israel on June 5th 1975.

For most country pairs (dyads) that trade through the Suez Canal the closing created an exogenous increase in bilateral trade costs due to increased bilateral sea distance (depicted in figure 1.1). This exogenous variation in trade cost caused states that trade through the Suez Canal to temporarily decrease bilateral trade flows. This decrease is visualized in figure 1.2[4]. A simple difference-in-difference estimation of the interaction effect between

[1] See Long (2008) and Gowa (2020). Further discussed in section 2.1

[2] The first researcher that used the closing of the Suez Canal as a natural experiment is Feyrer (2009), who used it to study the impact of trade on income.

[3] Starting with operation Focus, the Israeli army had captured the complete Sinai peninsula just two days later.

[4] See also figure A.2 in the appendix.

dummies indicating dyads that trade through the Suez Canal and dummies indicating the years 1967 - 1975 on bilateral trade, including dyad and time fixed effects, shows that affected dyads traded on average 14.82% less during the Suez closure. The same estimation for sea distance shows that it increased on average by 49.07%.

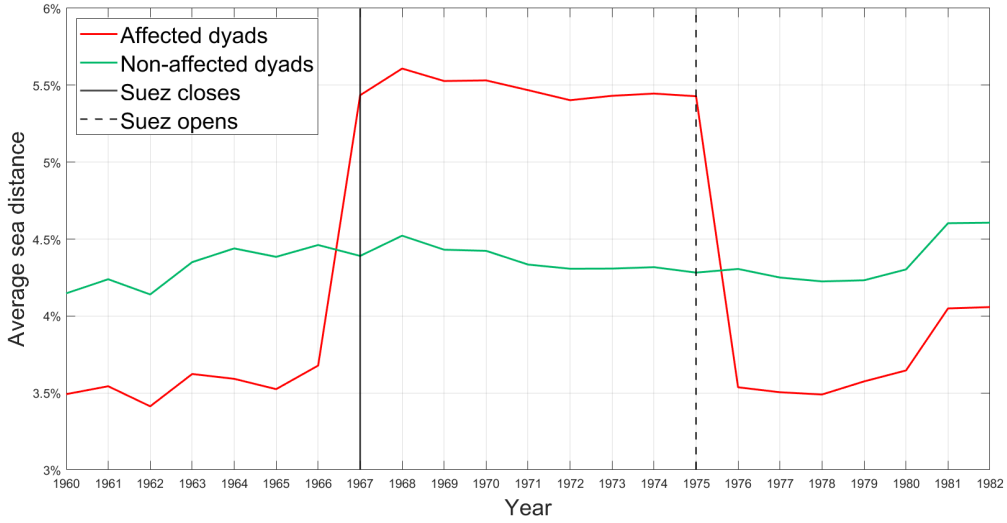



Figure 1.1: Average sea distance as a percentage of total sea distance between the years 1960 - 1982 of dyads affected by the Suez closure (red line) and dyads not affected by the Suez closure (green line).

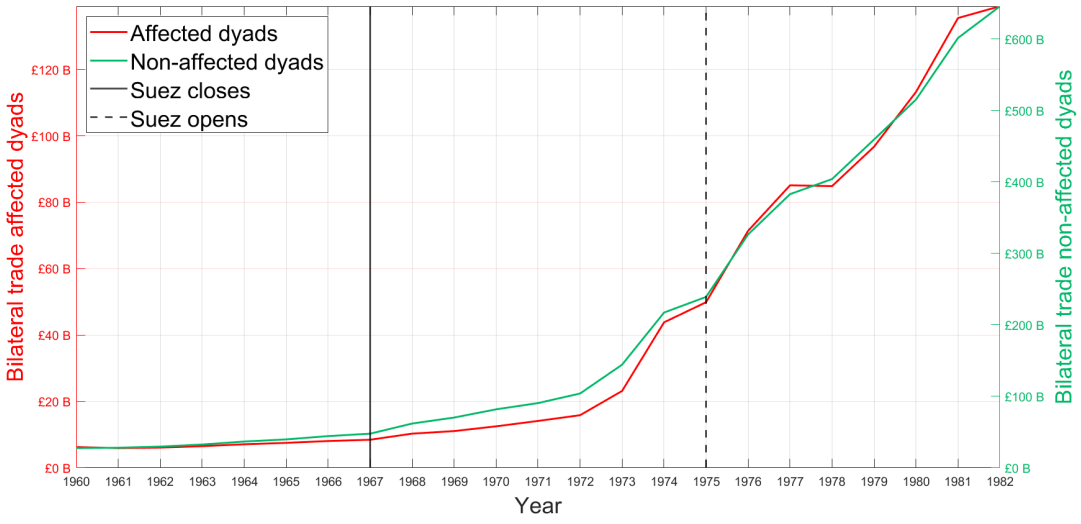



Figure 1.2: Total bilateral trade of dyads affected by the Suez closure (left y-axis) and dyads that were not affected (right y-axis), the begin- and endpoints are matched graphically. It can be seen that during the canal closure the affected dyad trade less.

This research will use the exogenous variation in shipping distance between dyads as a

natural experiment to research the effect of increased trade cost on foreign policy convergence. Where foreign policy convergence will be measured by the similarity in votes cast at the United Nations General Assembly between states.

The principle findings of this thesis are that increased trade costs are associated with foreign policy convergence and that this effect increases when major powers[5] are involved. The identification strategy of this research does not allow a causal interpretation but the findings are remarkable nevertheless. Since the current academic literature is divided into two camps, one side arguing that trade cost will lead to foreign policy convergence and the other one arguing that trade relationships cannot influence foreign policy. However, no theory has yet been developed that explains how trade cost might cause foreign policy divergence. No earlier empirical research has ever found such a result, which might be due to the way those researches address reverse causality.

The part of international relations literature that is concerned with the foreign policy consequences of international trade builds on the seminal work of Hirschman (1945), who argues that trade flows could be disrupted as a result of foreign policy disputes. Hence, when trade flow disruptions are sufficiently costly, trade should be associated with foreign policy convergence. This literature pays special attention to disparities in trade relationships. When one state can hurt the other state more than itself by disrupting trade, economic coercion can be a particularly effective method to elicit foreign policy convergence[6]. However, some researchers have argued that trade relationships, on their own, are insufficient to cause foreign policy convergence and that political and military superiority is a necessary condition for economic coercion to be successful (Ross, 2006).

[5]The definition of "major powers", used in this research, is discussed in section 3.4.
[6]See Keohane and Nye (1977, p. 268).

# 2

# Literature Review

## 2.1. Trade and Foreign Policy Convergence

There are two research fields that study the relationship between trade and foreign policy convergence; political science and international relations. Both fields have slightly different approaches to this subject. In this section the findings in political science will be discussed first. Thereafter the focus will be on the international relations literature, whose approach is most similar to the one in this research.

### 2.1.1. Political Science

In political science foreign policy is defined as "*general objectives that guide the activities and relationships of one state in its interactions with other states*" (Encyclopedia Britannica, 2020)[1]. Waging war, imposing economic sanctions and expulsion of diplomats are examples of foreign policy. Forming alliances, making trade agreements, supplying foreign aid and the protection of human rights abroad are other examples.

The similarity of these policies between states may vary over time. For example, when two states supply unconditional aid to Ethiopia in 2015 and in 2016 one state decides to only supply the aid under some specific conditions the foreign policies of those two states in that particular policy field have become less similar. When one takes into account the development in all foreign policy fields over time, one can make a statement about the similarity of foreign policy in general; When it becomes more similar foreign policy converges,

[1] Foreign policy is sometimes also defined as interactions with non-state entities such as unions. In this research, however, only interactions between states are considered.

when it becomes less similar foreign policy diverges[2].

In the political science literature, policy convergence has been researched at large but not much attention has been paid to foreign policy specifically[3]. The literature does mention international trade as a possible cause of policy convergence (Holzinger and Knill, 2005, p. 781) the most important mechanism is unilateral imposition i.e., economic coercion[4]. The distinction is made between "direct imposition" and "conditionality" (Dolowitz and Marsh, 2000, p. 9).

An example of direct imposition are imposed economic sanctions, the consensus in the literature seems to be that, even though they are effective in applying some harm to the adversary's economy[5], they almost never work as intended (Pape, 1997; Drezner, 2011)[6]. However, Marinov (2005) studies a panel of 137 countries over 37 years and finds that the presence of economic sanctions against foreign governments makes the leaders of those governments 28% more likely to lose power in the following year than the baseline risk in the absence of economic sanctions. Marinov notes that destabilization is a necessary condition for successful coercion and that economic sanctions are at least effective in destabilizing country leaders. Bapat, Heinrich, Kobayashi and Morgan (2013) use a variety of models to study 888 cases of economic sanctions over a thirty year period. The aim of this research is to identify the conditions under which coercion is most likely to be successful. Their conclusion is that target costs are an important factor and that sanctions are more likely to succeed if they are imposed through international institutions.

An example of conditionality is the threat of economic coercion, which some researchers found to be more effective than its actual application (Drezner, 2003). Drezner argues that imposed sanctions are by definition less likely to succeed because they occur when lead-

[2]Sometimes researchers use the term "foreign policy alignment" which is synonymous with foreign policy convergence.

[3]See Heichel, Pape and Sommerer (2005, p. 819), these researchers find only one study in their sample of 74 studies on policy convergence that is focused on foreign policy: Hill (1997).

[4]Another mechanism which is mentioned is regulatory competition. This occurs when higher mobility of capital, goods and workers puts competitive pressure on states to redesign policies to avoid regulatory burdens restricting the competitiveness of domestic industries. The higher the dependence on trade goods, the more likely it is that policies converge. However, this effect is mainly found in policies that are economic in nature, the effect on foreign policy remains unclear.

[5]See Ahn and Ludema (2020).

[6]See also the list of references in Drezner (2003, p. 643).

ers of the target country do not alter their behavior despite the threat of coercion. Leaders that prophylactically alter their behavior avoid sanctions, these cases should be included in any model studying the effectiveness of economic sanctions. Not all empirical research has done this, so selection bias might be a reason for the lag of academic consensus with regard to this question. To conclude, the political science literature, focusing mostly on imposition, finds ambiguous results regarding the relationship between trade and foreign policy convergence.

### 2.1.2. International Relations

International relationship scholars study the foreign policy consequences of trade building on the seminal work of Hirschman (1945) who reasons that increased bilateral trade will lead to foreign policy convergence. He argues that foreign policy conflicts could disrupt trade flows and therefore increase the costs of disputes resulting in more alignment with trading partners. Hirschman also addresses disparities of trade dependence, asserting that the more dependent state has a worse bargaining position and is thus more likely to adjust its policy position towards its less dependent trade partner[7]. Less dependent states can use their bilateral trade relations to coerce trading partners into serving their geopolitical goals. Later work has coined this phenomena "asymmetrical interdependence as a source of power" (Keohane and Nye, 1977, p. 268).

This theory has been criticised, however. Hirschman supports his work with the case of Nazi Germany in the interwar period, arguing that Germany used the dependence of central European states to elicit foreign policy convergence. However, some researchers have argued that it is not possible to isolate the effect of economic superiority from military and political superiority (Ross, 2006). Other critics have argued that an asymmetrical trade relationship is neither necessary nor sufficient[8] to obtain political influence since states can use other intangible assets to offset the bargaining disadvantage (Wagner, 1988). One such asset is a higher willingness to suffer the economic consequences of political opposition.

[7] This argument is known as the bargaining model of trade and foreign policy.

[8] When a causal factor is said to be "sufficient" it means that when the factor is present policy convergence will follow. When a factor is "necessary" it means that in the absence of that factor policy convergence will not occur, necessary factors are also sometimes referred to as permissive factors (Levy and Thompson, 2011, p. 222).

Others argue that states will develop technological and bureaucratic skills that will prevent exploitation (Holsti, 1978).

However, some researchers have found empirical evidence that states use their economic relationships (in this case through State Owned Enterprises) to influence international politics (Davis, Fuchs and Johnson, 2019). This phenomena is known in the literature as economic statecraft (Baldwin, 2020). Another example of economic statecraft is described by Berger, Easterly, Nunn and Satyanath (2013), these researchers find that CIA interventions aimed to support country leaders during the cold war were associated with increased U.S. export to those countries. Broadly speaking, the international relations literature is divided in two camps, one arguing that trade leads to foreign policy convergence and the other arguing that trade relationships are insufficient.

Furthermore, recent research in international relations suggest that there exist a strong relationship between international trade and foreign policy. Long (2008) finds that domestic firms trade more with foreign states that have a good political relationship with the home state because the likelihood of a disruptive conflict is lower and Gowa (2020) finds that adversaries trade less than allies because both states want to prevent the other state from using the gains from trade to advance their conflicted interest. These findings make the question on foreign policy convergence and trade much more difficult to answer because they show that not only does trade affect foreign policy but foreign policy also affects trade. This creates the problem of reverse causality which biases the results of empirical research.

The most recent studies on the foreign policy consequences of international trade, which have have mainly focused on alignment of dependent states with China (Flores-Macías and Kreps, 2013; Kastner, 2016; Strüver, 2016), have not properly addressed the issue of reverse causality in their empirical research. This paper applies a natural experiment, where the closure of the Suez Canal is used. This approach deals with the kind of bias that is expected to be found. Next, the Suez closure is discussed.

## 2.2. Suez Closure

The Suez Canal was closed by Egypt during the Six Day War in 1967. To understand the origin of this war it is interesting to go back to the opening of the Suez Canal. The Suez Canal was opened in 1869, it was constructed by the Suez Canal Company whose initial major shareholders were private French investors and the Egyptian government, who later sold their share to Britain. The Suez Canal Company operated the Suez Canal between 1869 and 1956. In 1956 Egyptian president Gamal Abdel Nasser Hussein[9] nationalised the Suez Canal which started the Suez Crisis.

In a famous speech, Nasser argued that nationalising the canal was necessary in order to fund the construction of the Aswan Dam[10]. In that same speech he also denounced the British occupation of Egypt and contemporary control over profits of the Suez Canal (Goldschmidt, 2008 , p. 162). Initially, the U.S. and U.K. offered to help finance the Aswan Dam but on July 19th 1956 they abruptly withdrew their offer, stating that the project would "overwhelm" the Egyptian economy (Dekmejian, 1971, p. 45; James, 2008, p. 149). Although some political scientist argue that Nasser's foreign policy was the true reason[11].

In a reaction to Nasser's nationalisation of the Suez Canal, the U.K., France, and Israel made a secret agreement to occupy the Suez Canal zone and overturn Nasser (Kandil, 2014, p. 47). They invaded Egypt in October 1956 but the invasion was condoned by the U.S.S.R. and the U.S. who supported UN resolutions[12] demanding withdrawal and the stationing of the United Nations Emergency Force (UNEF) in the Sinai[13]. Mainly due to economic

[9] Nasser, together with Mohamed Naguib, toppled the Egyptian monarchy in 1952 which ended the U.K. occupation of Egypt.

[10] The Aswan Dam is the world largest embankment dam. The dam allows controlled flooding of the Nile, provides water storage for irrigation and generates hydroelectricity. In 1956 Nasser thought the Aswan dam was pivotal to Egypt's planned industrialization and in hindsight rightfully so. Strzepek, Yohe, Tol and Rosegrant (2008) estimate that the contribution of the dam to Egypt's GDP in 1997 was about 2.7-4%.

[11] Especially the Egyptian–Czechoslovak arms deal of 1955 and Nasser's diplomatic recognition of China (Dougherty, 1959, p. 38; Smith, 2012, p. 247).

[12] Security Council resolution 1001.

[13] There is an active debate in the literature about the actions of the U.S. in the Suez Crisis of 1956. Copeland (2015, p. 276) argues that the only exposure of the U.S. in this particular crisis was that Nasser would close the canal, which would not be in his own interest. Besides, the risk of a military intervention were far greater. Nasser was seen in the Arab world as an anti-imperialist revolutionary and military actions in Egypt could pit other countries in the Middle East against the U.S., which could hurt its oil supply (the U.S. was heavily dependent on Middle Eastern oil at that time). Furthermore, Eisenhower realized that Nasser was trying to pit the U.S.S.R. and the U.S. against each other in the financing of the Aswan Dam and simply did not want to play into his hand and risk all out war with Chroesjtsjov, so instead he made a joint statement.

sanction by the U.S. (not supporting the British pound and refusing oil export from South America) the U.K., France and Israel were forced to withdraw from Egypt[14].

After 1956 the presence of the UNEF on the Egyptian-Israeli border was the new status quo and the conflict had been relatively de-escalated. However, in 1966 and 1967, there were a number of (border) clashes between Israel and Syria[15] and Israel and Jordan[16]. Egypt signed a defence pact with Syria in November 1966 and with Jordan on may 30th 1967, just five days before the war. Intelligence that Israel wanted to topple the Syrian regime combined with Soviet pressure led Nasser to re-militarize the Sinai on may 14th 1967. In order to assist Syria with military actions against Israel, in the case of an Israeli invasion in Syria, Nasser had to expel UNEF[17] to get out the line of fire, so to speak.

An important issue for Israel in the Suez Crisis of 1956 (and all other Arab–Israeli wars) was the free access to the Straits of Tiran[18]. It had gained access after the war in 1956 and stated in 1957 that closure of the straits would be a casus belli. However, on may 22th 1967 Nasser announced that the straits would be closed to Israeli vessels and aircraft. Nasser knew that war was now inevitable and stated that his intentions were to destroy the state of Israel if it would invade Syria (Stephens, 1971, p. 479).

In light of these developments (and intelligence that Egypt was planning an invasion in Israel), Israel launched a preemptive[19] strike knows as operation focus which virtually destroyed all Egyptian air forces. This was the start of the Six Day War. The Israeli army advanced quickly in the Sinai and Egypt closed the Suez Canal on may 5th 1967 before the Israeli army could reach it and make use of the canal. Fifteen ships, later called the Yellow Fleet, were trapped in the canal which shows that the closure was an unforeseen event for other countries in the world. At the end of the Six Day War the Suez Canal functioned as

[14] An example of economic coercion. It is difficult to prove that it were the economic consequences of these measures that caused France, the U.K. and Israel to adjust their foreign policy rather than the signal of disapproval send by the imposition of the sanctions. They were effective either way.
[15] In particular the border battles at the Jordan river, for a discussion see Neff (1994).
[16] Especially the Samu incident, see Oren (2005) for a discussion. According to Oren, the accusation -made by King Hussein of Jordan- that Egypt failed to protect the West Bank during the Samu incident had a major influence on Nassers decision to disband UNEF later that year.
[17] On may 16th 1967.
[18] by 1967, 90% of Israeli oil was supplied through the Straits of Tiran (Louis and Shlaim, 2012 , p. 224).
[19] Whether it was an actual preemptive strike is a hotly debated issue, and an issue that is beyond the scope of this research.

the ceasefire line with the Egyptian army on the west side and the Israeli army on the east side.

The canal would remain closed for exactly eight years until may 5th 1975. During this period there was little prospect of the canal opening up[20]. There were occasional skirmishes between the two armies during the time of the closure and on October 6th 1973 the Yom Kippur War started. This war ended with a ceasefire, brokered by the U.N., on October 25th 1973. In the peace negotiations that followed, reopening of the Suez Canal was on the agenda and agreement was tentatively reached in early 1974. After removing mines and fixing war damages to the canal it was eventually opened on June 5th 1975. So, unlike the closing of the canal, the opening could be anticipated at least one year in advance by other countries in the world.

The first researcher, to my knowledge, who used the closure of the Suez Canal as a natural experiment in economics was Feyrer (2009). Feyrer argues that the closure serves as the perfect natural experiment because for most countries it was unanticipated, sudden and irrelevant except through its effect on shipping costs. Not many other researchers have used the exogenous variation in bilateral trade flows due to the closing after Feyrer, although there is one; Gerritse (2018). However, the Suez Canal has been studied by economists in other context, Fletcher (1958) argues that the Suez Canal was a major factor in the development of shipbuilding techniques and Pascali (2017) calculates that the reopening of the canal in 1975 reduced average shipping time by 10%.

[20] according to economist Joseph Zeira, who served as an Israeli army officer during the time of the closure and was stationed along the canal (Feyrer, 2009, p. 5).

# 3

# Data

## 3.1. Measuring Foreign Policy

As a measure of foreign policy convergence this research looks at the similarity in votes cast at resolutions in the United Nations General Assembly (UNGA). The affinity of nations index database, constructed by Gartzke and Jo (2006), is applied. Gartzke and Jo use data from Voeten, Strezhnev and Bailey (2009) for the period 1946 - 2002. A measure "$S$" is calculated (discussed further below). Each vote $Y$ can take on the value 1 for yes, 2 for abstain and 3 for no. When two states $i$ and $j$ vote on resolutions $v = 1, ..., V$, $S$ is calculated:

$$S_{i,j,t} = 1 - \frac{\sum |Y_{i,v,t} - Y_{j,v,t}|}{V_t} \tag{3.1}$$

So that $S_{i,j,t}$ takes on a value between -1 and 1. The measure will be calculated for each year $t$, there was no general assembly in 1964 so Gartzke and Jo (2006) interpolated for the missing values in this year, they do not describe the exact process of interpolation nor what specific interpolation is applied. However, the researchers do present a version of their data which is not interpolated for the missing values in 1964, which will be used in a robustness check.

### 3.1.1. Background

In order to research the effect of trade on foreign policy convergence we need some way to measure foreign policy. Since we cannot directly observe this, it needs to be inferred from observations. In pioneering work, Altfeld and De Mesquita (1979) use states' alliance portfolios to construct a measure of revealed preference. When two states have many common

allies their revealed foreign policies are assumed to be similar. Vice-versa, when they have very different allies their foreign policies are assumed to be dissimilar. In order to quantify the similarity in alliance portfolios between two states, the researchers used a measure of association known in statistics as Kendall's $\tau_b$[1]. In the years 1980 - 2000, it was common practice in the international sciences to use $\tau_b$ to measure foreign policy preferences of states because there was no better alternative. The main drawback of $\tau_b$ is that there is very small variation in the alliance portfolios over time.

Another, perhaps more nuanced, argument is given by Signorino and Ritter (1999), who demonstrate both theoretically and empirically that Kendall's $\tau_b$ does not measure what it intents to measure. The intent is to measure the similarity in alliance portfolios but it measures the association of two alliance portfolios interpreted as rankings instead. The researchers demonstrate that it is possible to construct two perfectly similar alliance portfolios with a different association ($\tau_b$) between them. Moreover, they show that it is possible to construct a portfolio with similarities in alliance commitments even though the $\tau_b$ of that portfolio has its lowest possible value: minus one. Another problem is that without variation in alliance ranking $\tau_b$ is undefined.

So, as an alternative, Signorino and Ritter (1999) proposed a spatial measure of foreign policy similarity, known as $S_c$, that can be calculated over a vector of different foreign policy dimensions. Alliance portfolios are one such dimension, arbitrarily many others can be added. $S_c$ measures the the distance between two states in each dimension as a percentage of the maximum possible distance according to some weighing scheme that has to be defined and then aggregates this over multiple dimensions using a scoring rule that also has to be defined.

Since 2000, $S_c$ has been standard in the literature to measure foreign policy. Most commonly, only a single dimension is used namely UNGA votes (as in this research, see equation 3.1). UNGA votes have been used to research state alliances ever since the first meet-

[1]
$$\tau_{b,i,j,t} = \frac{\mathrm{C}_{i,j,t} - \mathrm{D}_{i,j,t}}{\mathrm{C}_{i,j,t} + \mathrm{D}_{i,j,t}}$$
Where $\mathrm{C}_{i,j,t}$ is the number of concordant pairs and $\mathrm{D}_{i,j,t}$ is the number of discordant pairs within the alliance portfolios of states $i$ and $j$ in year $t$. See Kendall and Stuart (1961).

ing in 1946[2]. Bailey, Strezhnev and Voeten (2017) found 75 articles published between 1998 and 2012 that used UNGA votes as a measure of foreign policy preferences. Many of them applied the $S_c$ of Signorino and Ritter (1999).

### 3.1.2. Internal Validity

How well does $S_{i,j,t}$ (given in equation 3.1) measure the foreign policy of states? There are multiple concerns to discuss. To answer the question we split it up in two parts. First we consider how well UNGA votes reflect foreign policies in general. Second, we discuss concerns related to the coding of UNGA votes using Signorino and Ritter's (1999) $S_c$.

The majority of UNGA votes are not of significant importance to most nations, the votes cast are primarily of symbolic value[3]. So they serve the purpose of an interest similarity index well. But we are not merely interested in interest similarity, we aim to measure the degree to which foreign policies themselves converge. If we believe foreign policies follow states' revealed interest perfectly the affinity index ($S_{i,j,t}$) is a decent proxy for foreign policy. Both foreign policy and UNGA votes are outcomes of political processes but not necessarily the same processes. In autocratic regimes decision making will probably differ less between UNGA votes and actual foreign policy than in democracies where UNGA votes are the outcome of a less democratic, more diplomatic, process whilst foreign policy has to meet more rigorous democratic standards[4]. Differences between the two outcomes are possible.

As an alternative for UNGA votes this research will also use the Conflict and Peace Data Bank (COPDAB) data as a robustness check. COPDAB is constructed by Azar (1980), this researcher surveys bilateral interactions between states. Azar classifies all interaction on a hostility scale from 1 - 15, ranging from forming major strategic alliances (2) to official support of policy (7) to extensive war (15). The complete list is provided in appendix A.1.1.

[2] see the seminal work on bloc voting by Ball (1951) and later critique by Lijphart (1963).

[3] A notable exception are resolutions that are marked by the United States as "key", which have important consequences for the amount of development aid a developing country receives, as well as the number of World Bank/IMF programs it can join. According to Dreher and Jensen (2013), votes on these resolution reflect foreign policy better than "non-key" votes. But that is only valid for developing countries in a bilateral relationship with the United States.

[4] That being said, foreign policy is often the result of a less democratic process than domestic policy, in foreign policy the role of individual political leaders is emphasised (Levy and Thompson, 2011, p. 209).

Multiple bilateral interactions are recorded annually so the highest level of hostility within each dyad will be used. The advantage of this variable is that it measures foreign policy more directly. The disadvantage is that the database is primarily (albeit not exclusively) concerned with security issues[5]. Another disadvantage is that the amount of observations is fairly limited compared to UNGA votes and that the research period ranges from 1948 to 1978, meaning that only three years after the Suez Canal reopens are recorded.

Moving on to concerns related to the coding of UNGA votes. As mentioned, there are three possible outcomes of votes: yes, no and abstain. Coding yes as one and no as three seems logical but the question is how to incorporate abstains. Most researchers treat abstentions as a lesser sign of disapproval than no-votes, so they code them right in between yes and no with a value of two[6]. The implicit assumption here is that two states that vote abstain and no are as similar in their foreign policy as two states that vote abstain and yes. We do not expect this to lead to any relevant measurement error in our dependent variable ($S_{i,j,t}$). Because if the assumption does not hold and we have a measurement error in the dependent variable, the error is expected to be independent of the explanatory variables, in which case our estimates are still unbiased (Wooldridge, 2018, p. 309). In the baseline estimation abstains will be coded as two. Gartzke and Jo (2006) also provide a dataset excluding abstains and coding yes as one and no as two, this measure will be applied as a robustness test.

Another coding concern with $S_c$ is that it is sensitive to changes in the agenda of the UNGA, making it difficult to compare $S_c$'s over time since it is not possible to distinguish changes in the agenda from changes in states' foreign policy positions. Bailey et al. (2017) find some peculiarities in the data from Gartzke and Jo (2006) that result from shifts in the UNGA agenda. For example, according to the $S_c$, Russia and the United States are more in conflict in 2000 than the United States and the USSR ever were during the cold war. Moreover, left-wing southern American regimes do not systematically align less with the U.S. than right-wing regimes which is a result of the bad signal-to-noise of $S_c$ according to

[5] In the international relationship literature bilateral conflicts are seen as a form of foreign policy outcomes. In his seminal work on the study of war Clausewitz (1832) famously stated that "War is the continuation of foreign policy by other means".

[6] Exception is Voeten (2000) who treats them as equal signs of disapproval and codes them both with the value two.

Bailey et al. (2017). Finally, a practical drawback of $S_c$ is that it indicates that states' foreign policy positions diverge or converge but not whether they move symmetrically or one state moves more than the other.

So, Bailey, et al. (2017) propose a dynamic ordinal spatial model to estimate states' ideal points on a single policy preference dimension that reflect states' positions towards the U.S.-led liberal order. These ideal point estimates will be used as a robustness check in this research. The estimates are less sensitive to agenda changes, have a higher signal-to-noise than $S_c$ and show how much states move along the unidimensional preference space over time. Details on how the ideal points are estimated are provided in appendix A.1.2.

## 3.2. Bilateral Trade

The trade data used in this research comes from the TRADEHIST database of Centre d'Études Prospectives et d'Informations Internationales (CEPII) constructed by Fouquin and Hugot (2016). The dataset contains 1.9 million trade observations between the years 1827 and 2014 in current British pounds, 185.000 observations come from primary sources and the others are collected from secondary sources (mainly the DoTS database from the IMF). For a panel consisting of two states $i$ and $j$ Bilateral trade in year $t$ is calculated:

$$\text{Bilateral Trade}_{i,j,t} = \text{Import}_{i \leftarrow j,t} + \text{Import}_{j \leftarrow i,t} \tag{3.2}$$

When both states report an import/export flow the researchers used the data from the importing country[7]. The researchers excluded trade in services when possible. In the total of 1.9 million trade observations about 800,000 observations are nil.

## 3.3. Sea Distance

The data on bilateral sea distance also comes from Fouquin and Hugot (2016). The researchers acquired the data from Vesseltracker (2014). The largest port in each country is selected and for every dyad the shortest route between the two ports is obtained. When a country has an ocean on two flanks, one port on each flank is selected and the shortest route to any of the two ports is obtained. For Canada and the U.S. the sea distance is

[7] The researchers argue that importers have a larger incentive to report the flow accurately because importer flows are subject to duties.

calculated as (0.95 × distance to east coast port) + (0.15 × distance to west coast port). This pattern roughly matches economic activity over the sample period[8], this method is also applied by Feyrer (2009). The researchers take the closure of the Suez Canal into account, of the 35,075 panels, 23,839 were affected by the closure.

## 3.4. Major Powers

International relationship scholars have used both quantitative and qualitative research to build on or critique the theory of Hirschman (1945). Qualitative research almost invariably analyse cases where major powers are involved[9]. According to Hirschman's theory asymmetry has to be present in the trade relationship, so most salient cases would involve dyads consisting of one major power and one minor power. Remarkably, most quantitative researcher has also focused mainly on major powers[10] even though they are not bound by small sample sizes as in qualitative research. Asymmetry can occur within dyads consisting of a major power and a minor power as well as dyads consisting of minor powers. Some researchers have argued that the findings in support of Hirschman were not able to distinguish between economical and political/military superiority of the major powers and that the latter was the true causal factor behind foreign policy convergence (Ross, 2006).

This research does not differentiate between major and minor powers. Since, theoretically, there is no reason to believe that foreign policy convergence will not occur between minor powers. However, it is interesting to see what happens to the results if we do differentiate between dyads including major powers and dyads consisting of minor powers only. If there is any merit in the argument of Ross (2006) and political and military superiority is a necessary condition for foreign policy convergence to occur, we would expect the convergence to be most pronounced in dyads that include a major power. Since major powers are known to have a larger military and fight more wars (Reed, Clark, Nordstrom and Hwang, 2014) and are more internationally active and focused on foreign policy (Chiba, Machain and Reed, 2014) than minor powers. So, in some estimations we include major power as a

[8] Please note that the sample period of the dataset from Fouquin and Hugot (2016) is 1827 - 2014 which does not match the research period of this research which is 1946 - 2002.
[9] Hirschman (1945): Germany, Keohane and Nye (1977, chapter 7): the U.S., Ross (2006): China.
[10] Hill (1997): European Union, Flores-Macías and Kreps (2013): China, Berger, Easterly, Nunn and Satyanath (2013): the U.S.

control variable.

We follow the definition of a major power from the Correlates of War project[11] presented in Singer and Small (1972) who define major powers according to an "inter-coder agreement". That is, major powers are defined as those countries that the majority of coders agree are major powers. Most researchers focus on a combination of capabilities and behavior for their definition. Capabilities can be defined and measured[12] relatively easy but behavior is more difficult to measure. So the definition is subjective to some degree, although this problem is mitigated somewhat by the inter-coder agreement. The list of countries classified as major powers in periods overlapping our research period are given:

- The United States 1898 - 2002
- The United Kingdom 1816 - 2002
- France 1945 - 2002
- Germany 1991 - 2002
- Russia 1922 - 2002
- China 1950 - 2002
- Japan 1991 - 2002

## 3.5. Control Variables

The conditional independence assumption is not expected to hold, so control variables are added to the (baseline) regression. In this we follow the researches of Flores-Macías and Kreps (2013), Kastner (2016) and Strüver (2016) since their empirical approach is most akin to the one in this research.

All three researches use the Composite Index of National Capability (CINC) of Singer, Bremer and Stuckey (1972)[13]. This index is widely used in the international relations literature. Capabilities are measured along six dimensions: military expenditures, military personnel, iron and steel production, primary energy consumption, total population and urban population. These indicators are the most effective measures of a nation's material capabilities according to the researchers. In this research the absolute difference in CINC

[11] See: https://correlatesofwar.org/data-sets/state-system-membership.
[12] For example with the Composite Index of National Capability (CINC) of Singer, Bremer and Stuckey (1972). See section 3.5.
[13] This dataset was later expanded by Singer (1988).

between the states in a dyad is taken ($\text{CINC}_{i,j,t}$) and added as a measure of disparity in material power within a dyad.

Furthermore, all researchers add a measure of regime type similarity. This control is added because states with similar political institution are expected to have similar foreign policies (Voeten, 2000). For this we use the Integrated Network for Societal Conflict Research (INSCR)[14] Polity5 dataset. This is a variable that characterizes a state's governing authority on a scale from -10 to 10, democracies scoring six and above. Here, again the absolute difference is taken ($\text{Regime Type}_{i,j,t}$) between the polity5 indices of both states in the dyad to reflect the similarity in regime type.

Flores-Macías and Kreps (2013) also add a couple of variables that indicate the salience of the trade relationship. In this research one such variable is added called "trade salience" and calculated as follows:

$$\text{Trade Salience}_{i,j,t} = \frac{\text{Bilateral Trade}_{i,j,t}}{\text{GDP}_{i,t}} + \frac{\text{Bilateral Trade}_{i,j,t}}{\text{GDP}_{j,t}} \tag{3.3}$$

All data for this calculation is provided in the dataset of Fouquin and Hugot (2016).

Finally, Strüver (2016) adds a control variable for the number of joined Inter governmental Organisation (IGO) memberships. In this research the dyadic IGO dataset of Pevehouse, Nordstrom, McManus, and Jamison (2020)[15] is utilized. It contains data on membership of over 500 IGO's at the country-year level. We calculate the variable $\text{IGO}_{i,j,t}$ which is simply the number of joint IGO memberships of both states in a dyad in year $t$. As a final remark, in unreported regressions more controls are added namely: total GDP and total population (provided by Fouquin and Hugot (2016)), and total military expenditures, total military personnel, total primary energy consumption and total iron and steel production (provided by Singer, Bremer and Stuckey (1972)).

[14] See; INSCR (2018).
[15] The original dataset was collected by Wallace and Singer (1970).

## 3.6. Data Summary

The research period is set from 1946 - 2002. In this period we have data on sea distance, bilateral trade and the affinity index for 380,325 observations divided over 16,455 panels of which 6,321 were affected by the Suez closure. To match the data from Gartzke and Jo (2006) with CEPII's TRADEHIST dataset of Fouquin and Hugot (2016), a matching table was constructed based on Corrolates of War[16] country codes which are used by Gartzke and Jo (2006). Descriptive statistics can be found in table 3.1.

Table 3.1: Descriptive Statistics.

| Variable | Unit | Obs | Mean | S.D. | Min | Max |
|---|---|---|---|---|---|---|
| Affinity Index ($S_c$) | Index | 944,861 | 0.6995 | 0.2775 | -0.7143 | 1 |
| Bilateral Trade | British Pound (M) | 1,397,333 | 91.1 | 1460 | 0 | 269,000 |
| Bilateral Sea Distance | Kilometer | 1,080,193 | 10,959 | 5715 | 61 | 29,533 |
| Major Power | Dummy | 1,749,500 | 0.0696 | 0.2545 | 0 | 1 |
| Regime Type | Index | 1,060,459 | 7.7859 | 6.2679 | 0 | 20 |
| CINC | Index | 1,349,320 | 0.0107 | 0.0292 | 0 | 0.3638 |
| Trade Salience | Ratio | 1,185,398 | 0.0045 | 0.0474 | 0 | 16.968 |
| IGO | Count | 917,695 | 22.368 | 13.796 | 0 | 106 |

The minimum of the affinity index is found between the U.S. and Poland in 1951. The maximum bilateral trade is found between the U.S. and China in 2002. The minimum bilateral sea distance is found between Yugoslavia and Czecho-Slovakia and the maximum between Mongolia and Romania in 1967 - 1975, during the Suez closure. The sea distance between Mongolia and Romania increased with 12,712 km due to the closure. This dyad, however, was not the dyad that saw its sea distance increase the most, that was the dyad Egypt - Saudi Arabia for which the increase was 21,257 km. The sea distance between Turkey and Pakistan increased with 14,877 km, the effect of the Suez closure on trade flows in this dyad is clearly visible and depicted in figure A.1 in the Appendix[17].

[16] See https://correlatesofwar.org/data-sets/cow-country-codes

[17] The trade flows between Egypt and Saudi Arabia are not depicted because those might be disturbed due to the Six Day War/Yom Kippur War.

# 4

# Methodology

## 4.1. Baseline Estimation

The baseline estimation is given in equation 4.1.

$$S_{i,j,t} = \alpha_1 + \beta_1 \text{Sea Distance}_{i,j,t} + \text{X}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{1,i,j,t} \tag{4.1}$$

Where $S_{i,j,t}$ is the affinity index between country $i$ and $j$ in year $t$, $\alpha_1$ is the intercept and $\gamma_t$ are time fixed effects. $\lambda_{i,j}$ are dyad fixed effects, other estimations use country dummies ($\lambda_i$ and $\lambda_j$) in a random effects model. $\text{X}_{i,j,t}$ is a vector of control variables, discussed in section 3.5. A Hausman test will be performed to see which model has consistent estimates. All models cluster standard errors on the dyad level to control for serial autocorrelation. When the conditional independence assumption holds, $\beta_1$ can be interpreted as the effect of trade cost on the affinity index ,under the assumption that sea distance only influences the affinity index through bilateral trade. So, equation 4.1 is the reduced form. Note that all right hand side variables, save $\text{X}_{i,j,t}$, are exogenous, sea distance is exogenous under assumption and the time[1] and dyad fixed effects are also exogenous.

However, there can still be a selection bias in the estimate of $\beta_1$ if the dyads that are affected by the Suez closure are not randomly distributed, in that case the independence assumption does not hold and we cannot claim causality. This is checked with a set of balancing test on observed dyad characteristics between affected and non-affected dyads. The regressions include time and dyad fixed effects with standard errors clustered on the dyad level. The specification of the balancing test on covariate "$C$" is given:

$$C_{i,j,t} = \alpha_2 + \beta_2 \text{Sea Distance}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{2,i,j,t} \tag{4.2}$$

[1] Time fixed effects are exogenous because the passage of time is exogenous (Wooldridge, 2018, p. 521)

Please note that balancing tests say something about the balance *within* a sample which itself may not be random from the total population of dyads. A reason could be that more advanced economies, for example, have better or more complete reporting of trade flows compared to developing economies.

## 4.2. Instrumental Variable

This research will also look at an instrumental variable approach[2]. The estimation method is used to deal with endogeneity problems in statistical inference such as Omitted Variable Bias (OVB) and simultaneity. This research will apply Two Stage Least Squares (TSLS) estimation where the first-stage is given:

$$\text{Bilateral trade}_{i,j,t} = \alpha_3 + \beta_3 \text{Sea Distance}_{i,j,t} + \text{X}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{3,i,j,t} \tag{4.3}$$

Now, the first stage fitted values are used to estimate the second-stage:

$$S_{i,j,t} = \alpha_4 + \beta_4 \widehat{\text{Bilateral trade}}_{i,j,t} + \lambda_{i,j} + \text{X}_{i,j,t} + \gamma_t + \epsilon_{4,i,j,t} \tag{4.4}$$

$\beta_4$ will be an unbiased estimate of the effect of bilateral trade on the affinity index if the treatment i.e., "Affected", is randomly distributed within the population. Additionally the following identifying assumptions have to hold[3]:

$$Cov(\text{Sea Distance}_{i,j,t}, \epsilon_{5,i,j,t}) = 0 \tag{4.5}$$

$$Cov(\text{Sea Distance}_{i,j,t}, \text{Bilateral trade}_{i,j,t}) \neq 0 \tag{4.6}$$

Respectively, the instrumental exogeneity assumption[4] and the instrumental relevance assumption. The instrumental relevance condition can be tested, more on this later, but the exclusion restriction cannot be tested[5], so it needs to be assumed. Hence, in our case, we assume that the variation in sea distance only impacts the affinity index through its effect on bilateral trade. It seems unlikely that the increased sea distance has any relevance to foreign policy beyond its impact on bilateral trade[6]. So, 4.5 holds under assumption.

[2] Instrumental variables were introduced in a book called Tariff on animal and vegetable oils by Wright (1928).
[3] $\epsilon_{5,i,j,t}$ is the error term in the estimation $S_{i,j,t} = \alpha_5 + \beta_5 \text{Bilateral trade}_{i,j,t} + \lambda_{i,j} + \text{X}_{i,j,t} + \gamma_t + \epsilon_{5,i,j,t}$
[4] Or the exclusion restriction.
[5] We cannot calculate $Cov(\text{Sea Distance}, \epsilon_5)$, we can only estimate $\hat{\epsilon}_5 = S - \hat{\alpha}_5 - \hat{\beta}_5 \text{Bilateral trade}$. Bilateral trade is allowed to be endogenous here, so $\hat{\epsilon}_5$ does not say a lot about the covariance of sea distance and $\epsilon_5$ (Wooldridge, 2018, p. 497).
[6] A link that could exist are diplomats traveling through the canal, then the cost of diplomacy would increase

Note that $Cov(\text{Bilateral trade}_{i,j,t}, \text{Sea Distance}_{i,j,t}) = 0$ for all dyads that are not affected by the Suez closure. This means that all variation is coming from the affected dyads and that $\beta_4$ should be interpreted as a covariate-adjusted Local Average Treatment Effect (LATE), not an Average Treatment Effect (ATE).

Finally, we can empirically test the instrumental relevance assumption 4.6[7]. Deciding whether an instrument is weak or not is an ongoing area of research. This research will follow the discussion in Wooldridge (2018, p. 512), based on work by Stock and Yogo (2005), and say that a first-stage F statistic of 10 or larger is a sufficiently strong instrument[8]. This rule of thumb is common practice in the economic literature.

## 4.3. Mechanism

The international relations literature suggest that asymmetry in trade relationships is a source of power which creates a causal link between bilateral trade and foreign policy convergence (Keohane and Nye, 1977, p. 268). To put this hypothesis to the test, a monadic measure of dependence (suggested by Oneal, Oneal, Maoz and Russett, 1996) is constructed that is commonly used in the literature. For state $i$ that forms a dyad with state $j$ the dependence is calculated[9]:

$$\text{Dependence}_{i,t} = \ln\left(\frac{\text{bilateral trade}_{i,j,t}}{\text{GDP}_{i,t}}\right) \tag{4.7}$$

with sea distance and our estimation would capture the combined effect of increased trade cost and increased diplomacy cost. In that case assumption 4.5 would not hold. In the period 1967 - 1975 air fares were roughly four times higher than today (Rodrigue, Comtois and Slack, 2020, chapter 1) but probably still affordable to most diplomats, especially when discounted for the reduced travel time. I could find no data on passenger travel through the canal after the nationalization in 1956 but in the period 1951 - 1956 about half a million people traveled through the canal each year which were mainly emigrants from Europe leaving for Australia (Mountjoy, 1958, p. 159).

[7] The problem with weak instruments can be seen when taking a closer look at the IV estimator $\hat{\beta}_{4,\text{IV}}$ which can be expressed as:

$$\hat{\beta}_{4,\text{IV}} = \beta_4 + \frac{Corr(\text{Sea Distance}, \epsilon_5)}{Corr(\text{Sea Distance}, \text{Bilateral trade})} \times \frac{\sigma_\epsilon}{\sigma_{\text{Bilateral trade}}}$$

It can be seen that when $Corr(\text{Sea Distance}, \text{Bilateral trade})$ is small the bias in the estimate of $\beta_4$ can be large even if $Corr(\text{Sea Distance}, \epsilon_5)$ is small.

[8] If there is serial correlation in panel data, Olea and Pflueger (2013) suggest to use a F statistic of 20.

[9] bilateral trade$_{i,j,t}$ is calculated as in equation 3.2.

Vice versa for state $j$. The lower measure of these two values can be interpreted as dyadic economic interdependence, the absolute difference measures dyadic asymmetry in dependence. As mentioned, under the hypothesis by Keohane and Nye (1977, p. 268), the dyadic asymmetry of the trade relationship should influence the effect of bilateral trade on foreign policy convergence. So this measure is interacted with sea distance in the baseline specification 4.1.

When researching dependence, we could get the wrong picture if we only look at dyadic measures. States could avoid coercion by substituting away from dependence on a given partner. So, we also need to consider *extradyadic* dependency measures. For this we follow Gartzke and Westerwinter (2016) and use the monadic measure given in 4.7 to construct two measures of extradyadic asymmetric dependence[10]. The first measure of extradyadic asymmetric dependence counts the extradyadic trade relationships for which more dependent intradyadic state was also the more dependent state in a given year. A dummy variable is constructed for each dyad consisting of two states $i$ and $j$ where -lets say- state $i$ is the more dependent state, $i$ has a set of trading partners $H = \{1, 2, ..., H\}$, the dummy is called "more dependent$_{i,h,t}$" and equals one if dependence$_{i,t}$ > dependence$_{h,t}$ and zero otherwise, this variable is then summed over all trading partners of state $i$ excluding state $j$ in year $t$:

$$\text{Extradyadic asymmetric dependence high}_{i,j,t} = \sum_{h \neq j}^{H} \text{more dependent}_{i,h,t} \tag{4.8}$$

The second measure goes through exactly the same process only then for the less dependent state:

$$\text{Extradyadic asymmetric dependence low}_{i,j,t} = \sum_{h \neq i}^{H} \text{less dependent}_{j,h,t} \tag{4.9}$$

The first measure counts the number of dyads in which the more dependent state of the dyad considered was also the more dependent state. When the more dependent state trades in a network of dependent relationships the coercive leverage of the less dependent

[10] Please note that we cannot use country-year fixed effects because disparities in the trade relationships of individual states depends on the other state in the dyad. State A might be the more dependent state in a dyad with state B and the less dependent state in a dyad with state C in any given year.

state is undermined. According to Gartzke and Westerwinter (2016), the more trade relationships the dependent state has in which it is also the more dependent state, the easier it can substitute away from a particular asymmetric relationship. Similarly, the more trade relationships the less dependent state has in which it is also the less dependent state, the more opportunities it has for coercion. Which should lower the utility of coercing any particular partner.

Both these measures should decrease the effect of dyadic asymmetry on the effect of bilateral trade on foreign policy convergence. So these measures will be interacted with the interaction term between dyadic asymmetry and sea distance. The specification of those regressions are given:

$$S_{i,j,t} = \alpha_6 + \beta_6 \text{Sea Distance}_{i,j,t} + \pi_1 \text{Sea Distance}_{i,j,t} \times \text{Dyadic asymmetry}_{i,j,t} \times \text{Extradyadic asymmetric dependence high}_{i,j,t} + \text{X}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{6,i,j,t} \tag{4.10}$$

and

$$S_{i,j,t} = \alpha_7 + \beta_7 \text{Sea Distance}_{i,j,t} + \pi_2 \text{Sea Distance}_{i,j,t} \times \text{Dyadic asymmetry}_{i,j,t} \times \text{Extradyadic asymmetric dependence low}_{i,j,t} + \text{X}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{7,i,j,t} \tag{4.11}$$

Table 4.1 depicts the descriptive statistics of dyadic asymmetry as well as the extradyadic asymmetry measures.

Table 4.1: Descriptive Statistics Asymmetry

| Variable | Obs | Mean | S.D. | Min | Max |
|---|---|---|---|---|---|
| Dyadic Asymmetry | 539,384 | 2.7156 | 2.023 | 0 | 13.479 |
| Extradyadic Asymmetric Dependence High | 539,384 | 47.541 | 21.016 | 0 | 117 |
| Extradyadic Asymmetric Dependence Low | 539,384 | 88.847 | 47.660 | 0 | 175 |

## 4.4. Digression on Zeros

In some estimations the natural logarithm is taken of bilateral trade and sea distance. Log transformations decrease the problem of heteroskedasticity in skewed data. In our case, especially bilateral trade is skewed. Histograms of the log transformations are plotted in figure A.3 in the appendix.

The natural logarithm of zero is undefined, so dyad-years that have a trade flow of zero are not included in those regressions. When these zero trade observations are not randomly distributed, a selection bias can occur in the estimates. This is not a problem for the baseline estimations, the robustness tests and the mechanism estimations since there are no dyads with zero sea distance (see table 3.1). However, it is a problem in the IV estimations and in the comparison to other empirical approaches (see table 5.3). In these estimations bilateral trade is calculated as follows:

$$\ln \text{Bilateral Trade}_{i,j,t,1} = \ln(\text{Bilateral Trade}_{i,j,t} + 1) \tag{4.12}$$

This method, introduced by MaCurdy and Pencavel (1986), is common practice in the economic literature when dealing with log transformations of independent variables containing many zeros[11]. The problem with this method is that it introduces measurement error in the main explanatory variable of interest, which could also bias the estimates. So, in unreported regressions bilateral trade is calculated as follows:

$$\ln \text{Bilateral Trade}_{i,j,t,2} = \ln(\text{Bilateral Trade}_{i,j,t}) \tag{4.13}$$

Without adding one to all trade flows (as in equation 4.12), all dyad-year observations with zero trade flow are not taken into account. The results of these estimations are mentioned in the text. There are no noteworthy differences in the results between estimations using ln Bilateral $\text{Trade}_{i,j,t,1}$ (equation 4.12) and ln Bilateral $\text{Trade}_{i,j,t,2}$ (equation 4.13).

[11] The vast amount of zeros in trade flow observations poses a problem when estimating the gravity equation in international economics. Helpman, Melitz and Rubinstein (2008) argue that the zeros are not randomly distributed because they are correlated with distance.

# 5

# Results

## 5.1. Reduced Form Estimations

### 5.1.1. Balancing Tests

The results of the balancing tests are shown in table 5.1. As can be seen in the regression of sea distance on distance[1] more distant states are more likely to be affected by the Suez closure than less distant states. This observation can also explain why affected states trade less, bilateral trade decreases with distance[2]. Furthermore, it can be seen that affected dyads have more major powers, a smaller population, smaller GDP, slightly more disparity in material capability (CINC), more similar regime types, more salient bilateral trade, more joint IGO memberships and less primary energy consumption.

If the conditional independence assumption holds we would expect all these coefficients to be insignificant and the dyad characteristics randomly distributed between the treatment and control group. This is evidently not the case. The conclusion from table 5.1 is that we cannot rule out the possibility that there is a selection bias in our data. In an effort to mitigate this problem we use fixed effects and control variables in our baseline estimation, yet without conditional independence we cannot claim causality.

[1] Distance is the great-circle distance between the capital cities of both states in the dyad, from the dataset of Fouquin and Hugot (2016).

[2] This is one of the most robust findings in the literature on international trade. About half of the variation can be explained by increased trade cost due to larger shipping distances, the other half is contributed by other factors that are correlated with distance such as culture (Feyrer, 2009). Another remarkable finding is that the correlation is quite persistent and has not decreased much over time (Disdier and Head, 2008).

Table 5.1: Balancing Tests

| | ln Distance | ln Bilateral Trade | Major Power | ln Population | ln GDP |
|---|---|---|---|---|---|
| ln Sea Distance | 0.8622** | -0.1181** | 0.0027** | -0.0327** | -0.0401** |
| | (0.0123) | (0.0444) | (0.0007) | (0.0038) | (0.0108) |
| Observations | 634,850 | 380,325 | 634,850 | 610,723 | 607,405 |
| Total Panels | 18,853 | 16,455 | 18,853 | 18,308 | 18,533 |
| Affected Panels | 7,606 | 6,321 | 7,606 | 7,369 | 7,401 |
| | CINC | Regime Type | Trade Salience | IGO | ln PEC |
| ln Sea Distance | 0.0004* | -1.0891** | 0.0009** | 1.5543** | -0.1182** |
| | (0.0002) | (0.1170) | (0.0003) | ( 0.1190) | (0.0115) |
| Observations | 634,477 | 542,854 | 549,516 | 315,270 | 634,322 |
| Total Panels | 18,853 | 15,783 | 17,291 | 18,308 | 18,853 |
| Affected Panels | 7,606 | 6,193 | 6,671 | 3,951 | 7,606 |

**Significant at the 1% level. *Significant at the 5% level. Standard errors are clustered at the dyad level. Sea Distance is the independent variable and is regressed on the observed dyad characteristics listed in the rows. All models use dyad and year fixed effects except distance, that model uses between estimates because distance is perfectly collinear with dyad fixed effects. PEC stands for primary energy consumption.

### 5.1.2. Baseline Estimation

The results of the baseline estimation are shown in table 5.2. As can be seen, using different kind of specifications yields different results. Model 1 shows the between estimates which indicate that increased sea distance is associated with foreign policy to divergence. When using random effects (Model 2), including country dummies, the same result is found. Adding control variables (Model 3) does not change much. However, the fixed effects estimation in Model 4 paints a different picture. It shows that increased sea distance is associated with foreign policy convergence. Adding control variables (Model 6) does not change this finding. The Hausman test indicates that only Model 4, 5 and 6 have consistent estimates for the coefficient of sea distance. In unreported regressions more controls are added: GPD, population, military personnel, military expenditures, iron and steel production and primary energy consumption. But the magnitude and significance of the coefficient of sea distance on foreign policy convergence remain virtually unchanged.

the results of the fixed effect estimations are puzzling, there is a discussion in the international sciences whether bilateral trade causes foreign policy convergence or whether trade relations are insufficient. These results, however, shows that increased trade costs are

Table 5.2: Baseline Estimation

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| ln Sea Distance | -0.0450* | -0.0149* | -0.0127* | 0.0558* | 0.0503* | 0.0447* |
| | (0.0019) | (0.0019) | (0.0032) | (0.0035) | (0.0036) | (0.0051) |
| Major Power | | | 0.0095 | | -0.5819* | -1.0569* |
| | | | (0.0152) | | (0.1295) | (0.2643) |
| CINC | | | 4.6212* | | | 4.8819* |
| | | | (0.2093) | | | (0.2119) |
| Regime Type | | | -0.0018* | | | -0.0011* |
| | | | (0.0002) | | | (0.0003) |
| Trade Salience | | | 0.1159* | | | 0.1150* |
| | | | (0.0288) | | | (0.0303) |
| IGO | | | 0.0018* | | | -0.0005 |
| | | | (0.0003) | | | (0.0004) |
| ln Sea Distance × | | | | | 0.0650* | 0.1127* |
| Major Power | | | | | (0.0134) | (0.0272) |
| Country Dummies | no | yes | yes | no | no | no |
| Dyad FE | no | no | no | yes | yes | yes |
| $R^2$ | 0.2238 | 0.5908 | 0.6521 | 0.2130 | 0.2134 | 0.2449 |
| Observations | 634,850 | 634,850 | 242,197 | 634,850 | 634,850 | 242,197 |
| Total Panels | 18,853 | 18,853 | 7,496 | 18,853 | 18,853 | 7,496 |
| Affected Panels | 7,606 | 7,606 | 2,914 | 7,606 | 7,606 | 2,914 |

*Significant at the 1% level. Standard errors are clustered at the dyad level. The dependent variable is the Affinity Index $S_{i,j,t}$. Model 1 provides the between estimates. Model 2 and 3 use random effects. Model 4, 5 and 6 use dyad fixed effects. All models include time fixed effects.

associated with policy convergence. This would imply that, not only, does bilateral trade not cause foreign policy convergence but rather creates foreign policy divergence. We cannot interpret these finding as causal because we are not sure that all identifying assumptions hold. Nevertheless, the correlations are interesting because they are significant and have the opposite sign of what we would expect to find.

The interaction term between major power and sea distance in Model 5 and 6 shows that the positive effect of sea distance on foreign policy convergence, found in Model 4, is more pronounced in major power dyads. The baseline effect of sea distance on foreign policy convergence does not change much. Adding disparity in material capabilities as a control variable (Model 6) also does not change the baseline effect much. In unreported regressions an interactionterm between disparity in material capabilities (CINC) and sea

distance shows the same as the interactionterm with major power dyads: the effect is more pronounced when disparity increases but the baseline coefficient does not change much. This indicates that military and political superiority are not a necessary condition for foreign policy convergence to occur, contrary to the argument given by Ross (2006). However, the effect we find is more pronounced in major power dyads, so military and political superiority could work as a catalyst on the effect of bilateral trade on foreign policy convergence. The question still remains why the effect we find has the opposite sign found in earlier empirical and theoretic research. This question is addressed in the next subsection.

### 5.1.3. Comparison to Other Empirical Approaches

Why do we find a positive correlation between sea distance and policy convergence, whilst earlier work found a negative correlation? A possible explanation could be that earlier empirical research has used different ways to address endogeneity concerns. Strüver (2016) simply uses lags to control for simultaneity and Flores-Macías and Kreps (2013) use lags and an IV based on energy production. Kastner (2016) does not address endogeneity at all. Note that using lags to control for simultaneity is only valid when there are no dynamics in the dependent variable ($Y_{t-1} \nrightarrow Y_t$) and when there are dynamics in the independent variable ($X_{t-1} \rightarrow X_t$) i.e., the relationship between $X$ and $Y$ has to be contemporaneous (Bellemare, Masaki and Pepinsky, 2017).

Table 5.3 depict the empirical approaches of those papers. Model A regresses bilateral trade[3] on foreign policy convergence and yields a slightly positive coefficient. Indicating that increased trade cost will lead to foreign policy divergence. When addressing endogeneity concerns in this estimation by lagging the independent variables (Model B) the conclusions do not change. The IV approach based on energy production is not exactly replicated in this research, because we do not have data on energy production, so we use iron and steel production instead[4]. Model C depicts the result of that estimation and, again, a positive correlation is found (this time even more pronounced).

[3] In the reported estimations ln bilateral trade is calculated as in equation 4.12, using ln bilateral trade as in equation 4.13 (not adding one, thereby dropping zero trade flow observations) does not change the coefficients of Model B and C, the coefficient of Model A becomes insignificant.

[4] The first stage is given:

$$\text{ln Bilateral trade}_{i,j,t} = \alpha_8 + \beta_8 \text{ln Iron and Steel Production}_{i,j,t} + \text{X}_{i,j,t} + \lambda_{i,j} + \gamma_t + \epsilon_{8,i,j,t}$$

Table 5.3: Comparison to Other Empirical Approaches

| | Model A | Model B | Model C |
|---|---|---|---|
| ln Bilateral Trade | 0.0007*** | 0.0006*** | 0.0377*** |
| | (0.0001) | (0.0002) | (0.0050) |
| Major Power | 0.0195* | 0.0210** | 0.0866*** |
| | (0.0101) | (0.0097) | (0.0152) |
| CINC | 3.9895*** | 4.3956*** | 4.0233*** |
| | (0.1966) | (0.1974) | (0.2320) |
| Regime Type | 0.0003* | 0.0002 | -0.0026*** |
| | (0.0001) | (0.0002) | (0.0003) |
| Trade Salience | 0.0447** | 0.0053 | -0.2258** |
| | (0.0216) | (0.0212) | (0.1059) |
| IGO | -0.0007*** | -0.0008*** | -0.0032*** |
| | (0.0002) | (0.0002) | (0.0006) |
| $R^2$ | 0.2137 | 0.2177 | 0.1768 |
| Observations | 319,175 | 310,589 | 249,620 |
| Total Panels | 11,390 | 11,448 | 10,010 |
| Affected Panels | 2,914 | 2,943 | 2,729 |

*Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. Standard errors are clustered at the dyad level. The dependent variable is the Affinity Index $S_{i,j,t}$. All models include dyad and time fixed effects. Model B uses lags of the independent variables and Model C uses an IV, where bilateral trade is predicted using dyadic iron and steel production.

These results might explain the difference in the conclusion drawn by other researchers and the conclusion reached in this research, based on the results of table 5.2. Different ways of addressing endogeneity apparently lead to different conclusions on the foreign policy consequences of international trade.

The second stage is given:

$$S_{i,j,t} = \alpha_9 + \beta_9 \widehat{\text{Bilateral trade}}_{i,j,t} + \lambda_{i,j} + \text{X}_{i,j,t} + \gamma_t + \epsilon_{9,i,j,t}$$

## 5.2. Robustness Tests

The results of the robustness tests can be seen in table 5.4. The estimations in column one and two show, respectively, that excluding abstain votes and not interpolating for the missing data in 1964 do not alter the conclusions of the baseline estimation. Column three shows that using the ideal point estimates also does not change these findings, it implies that the distance on the unidimensional preference space deceases i.e., foreign policies converge, when sea distance increases. Moreover, column four indicates that the hostility level in the COPDAB database decreases with sea distance. This finding is in line with the results found in the baseline fixed effects estimation, as far as the dyadic interactions surveyed by COPDAB can proxy for foreign policy. To conclude, these findings show that the results of the fixed effects estimates in the baseline estimation may be puzzling but are robust to other coding decisions and databases nonetheless.

Table 5.4: Robustness Tests

| | No Abstain | Not Interpolated | Ideal Point Distance | COPDAB |
|---|---|---|---|---|
| ln Sea Distance | 0.0341*** | 0.0514*** | -0.1529*** | -0.2069*** |
| | (0.0042) | (0.0051) | (0.0206) | (0.0745) |
| CINC | 4.224*** | 4.8508*** | -7.3359*** | -5.4114*** |
| | (0.2025) | (0.2112) | (0.5568) | (1.5353) |
| Regime Type | 0.0002 | -0.0011*** | 0.0083*** | 0.0103** |
| | (0.0002) | (0.0003) | (0.0010) | (0.0041) |
| Trade Salience | 0.0540** | 0.1142*** | -0.1870 | -1.2968 |
| | (0.0221) | (0.0300) | (0.1506) | (1.6116) |
| IGO | -0.0005* | -0.0006* | -0.0194*** | -0.0050 |
| | (0.0003) | (0.0003) | (0.0012) | (0.0061) |
| $R^2$ | 0.2134 | 0.2451 | 0.0662 | 0.0349 |
| Observations | 242,197 | 238,412 | 301,523 | 32,213 |
| Total Panels | 7,496 | 7,496 | 7,510 | 4,178 |
| Affected Panels | 2,914 | 2,914 | 2,922 | 1,134 |

*Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. Standard errors are clustered at the dyad level. The dependent variable in "No Abstain" is the Affinity Index $S_{i,j,t}$ excluding abstain votes, "Not Interpolated" does not interpolate for the missing data in the year 1964. "Ideal Point Distance" uses the ideal point estimates as the dependent variable and "COPDAB" the bilateral interactions surveyed by the COPDAB database. All models use dyad and time fixed effects.

## 5.3. Instrumental Variable

The IV results are shown in table 5.5. Following Feyrer (2009), the results are shown with and without balancing the panel. A balanced panel is constructed over the period 1960 - 1983, eight years before the closure, eight years during the closure and eight years after the closure. Balanced panels have no missing data so there is no ambiguity about missing values. Note, however, that this balancing could create a selection bias towards dyads with better reporting, which are also generally larger. Moreover, it reduces the amount of observations considerably. The results are shown excluding the transition years 1967 - 1970 and 1975 - 1978 to capture the long run effect of the shock in shipping costs.

Table 5.5: Instrumental Variable Estimation

| | **IV estimates** | | | | |
|---|---|---|---|---|---|
| | Model 7 | Model 8 | Model 9 | Model 10 | Model 11 |
| ln Bilateral Trade | 0.0098* | -0.1421* | -0.1333* | -0.0332 | -0.0839* |
| | (0.0022) | (0.0477) | (0.0390) | (0.0255) | (0.0249) |
| | **First-stage** | | | | |
| ln Sea Distance | -1.4849* | -0.3583* | -0.4568* | -0.2560* | -0.3677* |
| | (0.0840) | (0.1115) | (0.1255) | (0.0600) | (0.0669) |
| Instrument $R^2$ | 0.7073 | 0.2591 | 0.2678 | 0.7018 | 0.7162 |
| Instrument F-Stat | 4383.57 | 156.26 | 167.59 | 323.55 | 370.95 |
| Observations | 242,197 | 242,197 | 213,352 | 32,357 | 24,275 |
| Total Panels | 7,496 | 7,496 | 7,496 | 1,371 | 1,371 |
| Affected Panels | 2,914 | 2,914 | 2,914 | 328 | 328 |
| Country Dummies | yes | no | no | no | no |
| Dyad FE | no | yes | yes | yes | yes |
| Balanced Panel | no | no | no | yes | yes |
| Transition Years Excluded | no | no | yes | no | yes |

*Significant at the 1% level. In the IV estimates, the Affinity Index $S_{i,j,t}$ is the dependent variable. In the First-stage, the natural log of Bilateral Trade is the dependent variable. Model 7 applies random effects. Models 8 - 11 use dyad fixed effects. All models include time fixed effects and control variables (Major Power, CINC, Regime Type, Trade Salience and IGO). Standard errors are clustered at the dyad level.

The IV estimates in the first row of table 5.5 show the same sort of pattern found in table 5.2; increased bilateral trade is associated with foreign policy convergence when using random effects and associated with foreign policy divergence using fixed effects. The

one exception is Model 10, where the the coefficient of bilateral trade is insignificant when creating a balanced panel. The coefficient becomes significant again when excluding the transition years in a balanced panel (Model 11)[5]. The instrument F statistic is sufficiently large in all models, so assumption 4.6 holds. The first-stage results show that bilateral trade generally decreases with sea distance although the magnitude of the coefficient differs between the models.

Excluding transition years slightly changes the magnitude of the coefficient of bilateral trade but not its sign. In unreported regressions the natural logarithm of bilateral trade is calculated without adding one (as in equation 4.13) so that zero trade flow observations are not included, this distinction has no influence on the balanced panel estimations (Model 10 and 11). However, it does impact Model 7, 8 and 9. The signs of the coefficients in those models do not change and the significance and magnitude remain virtually unchanged.

## 5.4. Mechanism

The results from estimations on the mechanism are depicted in table 5.6. Model 12 shows that the effect of sea distance on policy convergence is enhanced when dyadic asymmetry increases. This finding is in line with the prediction made by Hirschman (1945) and Keohane and Nye (1977), were it not for the wrong sign on the coefficients of both sea distance and the interaction term between sea distance and dyadic asymmetry. Model 13 shows that when we control for the extradyadic asymmetry measure for the more dependent state[6] the effect found in Model 12 becomes insignificant. Correcting extradyadic asymmetry for the less dependent state (Model 14) shows a significant negative coefficient which is very small. Even when one takes into account the values of both dyadic asymmetry and the extradyadic asymmetry measures, depicted in table 4.1, the effect on the relationship between sea distance and the affinity index is negligible. This can also be seen in the margin plots of Model 6 and 14 depicted in figure 5.1.

[5] Please note that Model 10 and 11 have very few observations because of missing data in the control variables. The treatment group only has 328 observations, this could explain the insignificant result in Model 10. When running Model 10 without controls the coefficient increases in magnitude and becomes significant again.
[6] Gartzke and Westerwinter (2016).

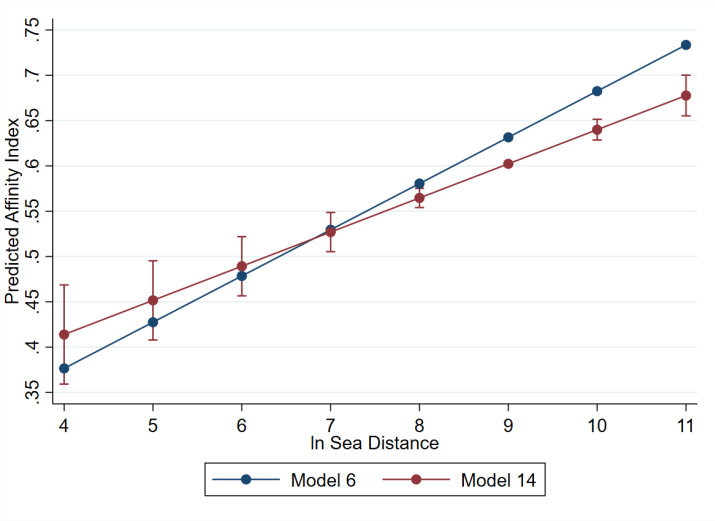



Figure 5.1: Margin plots of Model 6 and Model 14 including 95% confidence intervals. The affinity index is predicted (y-axis) at different levels of sea distance (x-axis), all other variables are kept constant at their means.

Table 5.6: Mechanism

| | Model 12 | Model 13 | Model 14 |
|---|---|---|---|
| ln Sea Distance | 0.0326* | 0.0378* | 0.0396* |
| | (0.0056) | (0.0056) | (0.0057) |
| ln Sea Distance × Dyadic Asymmetry | 0.0016* | | |
| | (0.0004) | | |
| ln Sea Distance × Dyadic Asymmetry × Extradyadic Asymmetric Dependence High ($10^{-7}$) | | -0.3150 | |
| | | (0.3020) | |
| ln Sea Distance × Dyadic Asymmetry × Extradyadic Asymmetric Dependence Low ($10^{-7}$) | | | -0.6890* |
| | | | (0.2200) |
| CINC | 4.4923* | 4.5800* | 4.5348* |
| | (0.2124) | (0.2098) | (0.2083) |
| Regime Type | -0.0027* | -0.0027* | -0.0027* |
| | (0.0003) | (0.0003) | (0.0003) |
| Trade Salience | 0.1067* | 0.1260* | 0.1362* |
| | (0.0297) | (0.0301) | (0.0306) |
| IGO | 0.0024* | 0.0022* | 0.0021* |
| | (0.0004) | (0.0004) | (0.0004) |
| $R^2$ | 0.1867 | 0.1856 | 0.1862 |
| Observations | 166,286 | 166,286 | 166,286 |
| Total Panels | 7,106 | 7,106 | 7,106 |
| Affected Panels | 2,723 | 2,723 | 2,723 |

*Significant at the 1% level. Standard errors are clustered at the dyad level. The dependent variable is the Affinity Index $S_{i,j,t}$. All models include dyad and time fixed effects.

# 6

# Discussion and Conclusion

In this research it is found that increased trade cost, in the form of increased shipping distance, is correlated with foreign policy convergence. At least, that it what the fixed effects estimations show. This finding is not in line with the conclusions of earlier research[1]. The random effects model, including country dummies, describe a situation that is much more in line with those results and theoretic predictions. However, these regressions do not yield consistent estimates according to the Hausman test. There are also concerns in regard to the conditional independence assumption which probably does not hold for the random effects model.

The results from the fixed effect models are more robust and the fixed effect models provide more consistent estimates. The question remains why the positive correlation between trade cost and foreign policy convergence is found. Some considerations are errors resulting from the identification strategy, i.e. unrealistic identifying assumptions. There could be some merit to this argument since the balancing tests indicate that there might be a selection bias in our treatment variable and we do not know if -and to what extent- fixed effects and control variables mitigate this bias. Moreover, the exclusion restriction cannot be formally tested so it only holds under assumption. Another possibility could be that UNGA votes are not a consistent proxy for foreign policy convergence. In other words, it might be possible that UNGA vote correlation increases even though foreign policies do not converge. Finally, least likely, it might be possible that there is an error in our understanding on the relationship between foreign policy convergence and trade costs. However,

[1] e.g. Flores-Macías and Kreps (2013), Kastner (2016) and Strüver (2016).

before this possibility can be considered it must first be shown that the results found in this thesis are not in fact a result of the identification strategy or data selection.

The results found in this thesis are nevertheless interesting. It seems unlikely to find this positive correlation using fixed effects -which are quite robust- when the true causal underlying relationship is in fact negative. UNGA vote correlations are widely used in the international relationship literature and according to many researchers the best proxy for foreign policy available. So, when we discard the possibility that the findings in this thesis are resulting from poor data, which would also invalidate all earlier empirical findings since they also rely on UNGA votes, the remaining conclusion would be that it is entirely explained by a flawed identification strategy. Considering that reverse causality is a major issue when researching the relationship between foreign policy and bilateral trade, and few empirical researchers have put serious efforts into mitigating this bias in their empirical research, there could be some profit to analyzing the finding of this thesis in more detail.

# A

# Appendix

## A.1. Alternative Foreign Policy Measures

### A.1.1. Conflict and Peace Data Bank

The complete list of interactions in the COPDAB database is given:

1. Voluntary unification into one nation
2. Major strategic alliance (regional or international)
3. Military economic or strategic support
4. Non-military economic, technological or industrial agreement
5. Cultural or scientific agreement or support (non-strategic)
6. Official verbal support of goals, values, or regime
7. Minor official exchanges, talks or policy expressions–mild verbal support
8. Neutral or non-significant acts for the inter-nation situation
9. Mild verbal expressions displaying discord in interaction
10. Strong verbal expressions displaying hostility in interaction
11. Diplomatic-economic hostile actions
12. Political-military hostile actions
13. Small scale military acts
14. Limited war acts
15. Extensive war acts causing deaths, dislocation or high strategic costs

For more details on the coding decisions and the database in general see Azar (1980).

### A.1.2. Ideal Point Estimates

To construct the ideal point estimates Bailey et al. (2017) use Item Response Theory (IRT). In particular, they use the multiple rater ordinal data model of Johnson and Albert (2006, p. 182)[1]. Each state $i$ has a unidimensional ideal point $\theta_{i,t}$ in each year $t$. The vote on each resolution is a function of its ideal point and some specific characteristic of the vote. In this case, the characteristic is the discrimination parameter that is commonly used in IRT models. For each country the spatial preference ($Z$) of resolution $v$ is given by equation A.1.

$$Z_{i,t,v} = \beta_v \theta_{i,v} + \epsilon_{i,t} \tag{A.1}$$

Here, $\beta_v$ is the discrimination parameter and $\epsilon$ is an idiosyncratic error term with $\epsilon \sim N(0,1)0$. $\beta_v$ indicates the polarity of the vote, if $\theta_{i,t}$ is high and $\beta_v$ is positive, state $i$ is inclined to vote yes. If $\theta_{i,t}$ is high and $\beta_v$ is negative, state $i$ is inclined to vote no. The magnitude of $\beta_v$ shows how well vote $v$ can separate countries with different $\theta$'s. If $\beta_v$ is zero the resolution is not able to discriminate between countries.

Each vote has three possible outcomes, 1 for yes, 2 for abstain and 3 for no. The observed vote $Y_{i,t,v}$ depends on the spatial preference ($Z_{i,t,v}$) and the location of some cutoff points ($\gamma_{1,v}$ and $\gamma_{2,v}$) that have to be placed along the unidimensional preference space, so that the position of $Z_{i,t,v}$ relative to $\gamma_{1,v}$ and $\gamma_{2,v}$ determines the vote of state $i$. The conditions are formally stated in equation A.2.

$$\begin{aligned} Y_{i,t,v} &= 1 \quad \text{if} \quad Z_{i,t,v} < \gamma_{1,v} \\ Y_{i,t,v} &= 2 \quad \text{if} \quad \gamma_{1,v} < Z_{i,t,v} < \gamma_{2,v} \\ Y_{i,t,v} &= 3 \quad \text{if} \quad Z_{i,t,v} > \gamma_{2,v} \end{aligned} \tag{A.2}$$

Assuming $\epsilon \sim N(0,1)0$, the probability that state $i$ votes option "$x$" is then given:

$$\text{PR}(Y_{i,t,v} = x) = \Phi(\gamma_{x,v} - \beta_v \theta_{i,t,v}) - \Phi(\gamma_{x-1,v} - \beta_v \theta_{i,t,v}) \tag{A.3}$$

Here, $\Phi$ is the normal cumulative distribution function and $\gamma_{0,v} = -\infty$ and $\gamma_{3,v} = \infty$ for all resolutions. The ideal points are centered at zero with a standard deviation of one. The researchers enable intertemporal comparison by utilizing the fact that some resolutions are reviewed in multiple years. For those resolution the cutoff points $\gamma$ are fixed on the

[1] In the literature on other voting bodies, spatial models and IRT have been common practice for some time e.g., Poole (2005).

unidimensional preference space across time. The underlying assumption is that the resolution parameters are constant across time. However, the context of a proposal can change over time which could also change the resolution parameters. In an effort to mitigate this problem the researchers limit the number of fixed consecutive resolution parameters to five years.

A Bayesian prior based on $\theta_{i,t-1}$ is used to estimate $\theta_{i,t}$. The variance of this prior determines the amount of smoothing. A hybrid Metropolis-Hasting/Gibbs sampler is used to estimate the parameters of the model[2].

Data from Strezhnev and Voeten (2013) is used to estimate the ideal points. The dataset contains votes on 4335 resolutions divided over 67 UNGA sessions from 1946 to 2012. 799 identical resolutions were identified by the researchers. Only roll call votes are included. In order to convert the ideal point estimates to a dyadic measure suited for panel data the ideal point distance $\theta_{i,j,t}$ is calculated. For a panel that consist of two states $i$ and $j$, the ideal point distance is calculated $\theta_{i,j,t} = |\theta_{i,t} - \theta_{j,t}|$.

[2]For more details on this estimation method see Bailey et al. (2017, p. 435, p. 450), Johnson and Albert (2006, p. 182) and Cowles (1996).

## A.2. Additional Figures

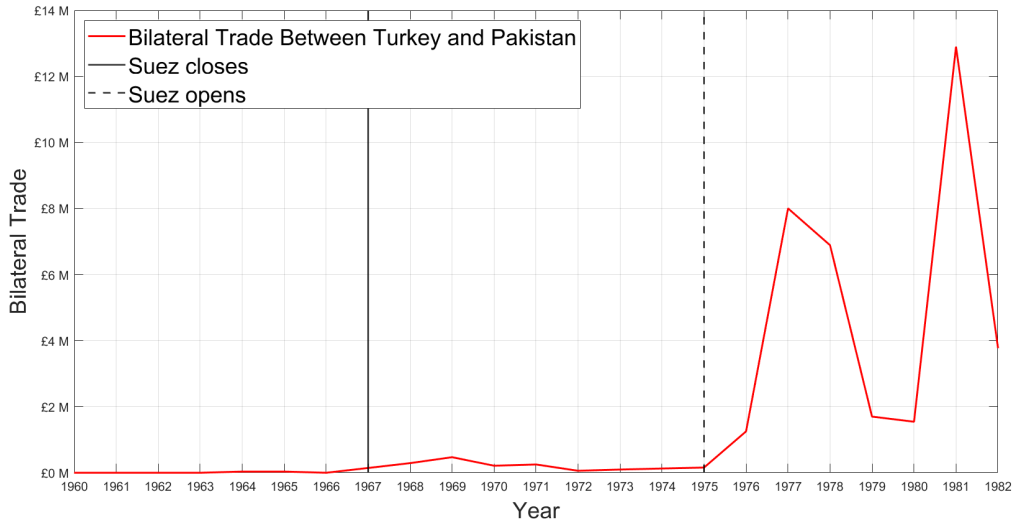



Figure A.1: Bilateral trade between Turkey and Pakistan in current British Pounds. This is one of the dyads that saw its bilateral sea distance increase most (14,877 km). It is clear that trade levels only increase after the Suez Canal reopens in 1975. The sudden increase did not coincide with any major trade development in either nation nor with any trade deals between the two, as far as we know. The pattern of increased trade after the reopening disappears when bilateral trade is graphed between Pakistan and countries that do not trade through the Suez Canal with Pakistan (same goes for Turkey). Both parties are members of the Organisation of Islamic Cooperation (OIC) since 1985 and have signed a bilateral investment treaty in 1995 (UNCTAD, 2016). No free trade agreement has been made between them, although negotiations have been going on since 2015.

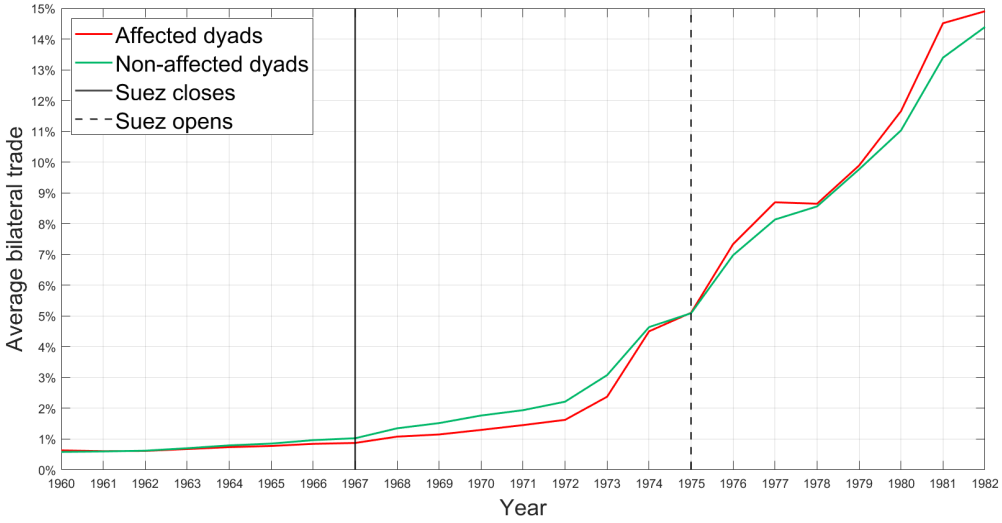
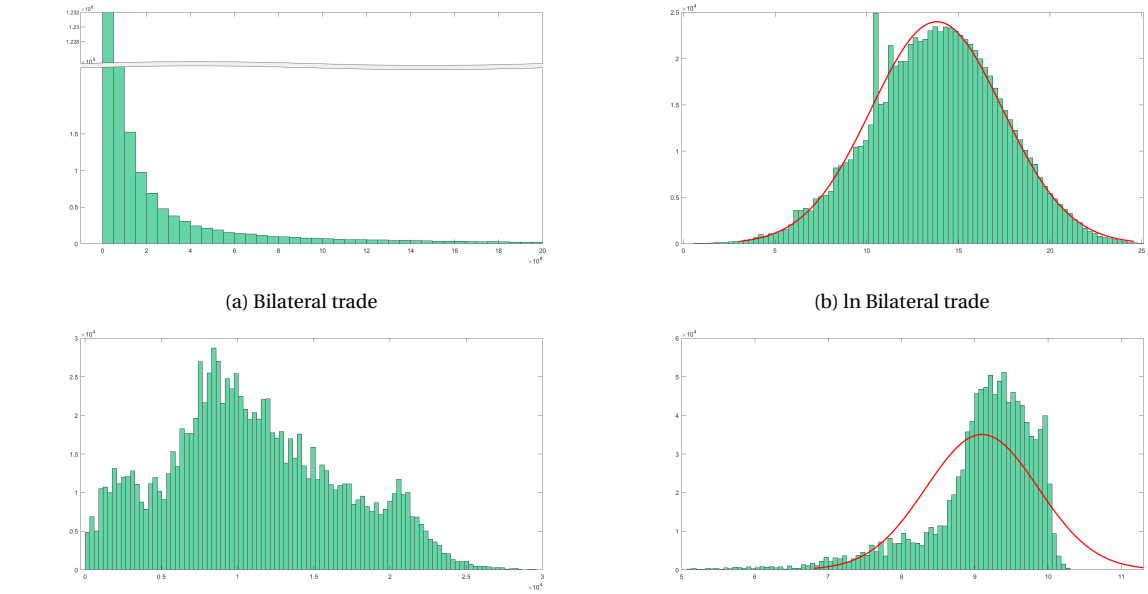



Figure A.2: Average bilateral trade as a percentage of total trade between the years 1960 - 1982 of dyads affected by the Suez closure (red line) and dyads not affected by the Suez closure (green line). It can be seen that affected dyads trade relatively less during the closure and more afterwards. Please note that this graph is sensitive to the time frame selected to compute the average bilateral trade. However, the trend depicted -relatively less bilateral trade during closure and more afterwards- is robust to all time frames around the closing event that can be constructed with the sample used in this research.



(a) Bilateral trade

(b) ln Bilateral trade

(c) Sea Distance

(d) ln Sea Distance

Figure A.3: Histograms of bilateral trade and sea distance. A normal distribution (fitted to the data) is plotted together with the histogram of the log transformations on the right hand side. 100 bins were used for sea distance. Because the distribution in bilateral trade is very skewed, more bins are used and only a part of the graph is depicted. Also note that the y axis for bilateral trade is broken at the bottom 2%.

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